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Leri [—/—]; c/o Borealis Technical Limited, Montagu Pavilion, 8-10 Queensway, Gibraltar (GI).

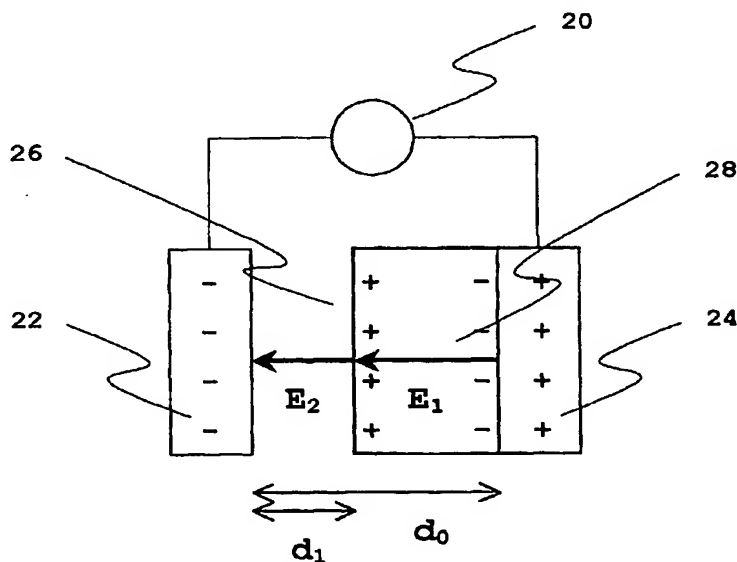
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(54) Title: METHOD FOR INCREASING EFFICIENCY OF THERMOTUNNEL DEVICES



(57) Abstract: The present invention comprises a tunneling device in which the collector electrode (24) is modified so that tunneling of higher energy electrons from the emitter electrode (22) to the collector electrode is enhanced. In one embodiment, the collector electrode is contacted with an insulator layer (28), preferably aluminum oxide, disposed between the collector and emitter electrodes. The present invention additionally comprises a method for enhancing tunneling of higher energy electrons from an emitter electrode to a collector electrode, the method comprising the step of contacting the collector electrode with an insulator, preferably aluminum oxide, and placing the insulator between the collector electrode and the emitter electrode.

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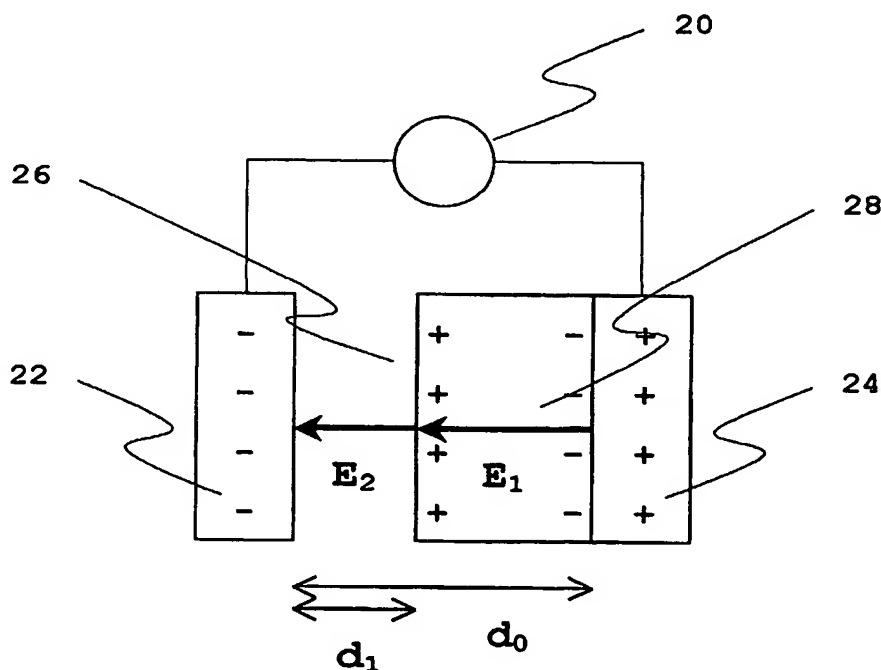
(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
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| X | US 3 169 200 A (HUFFMAN FRED N) 9 February 1965 (1965-02-09) column 2, lines 29-56; figure 2 column 3, lines 24-40; figures 2,3 column 4, lines 47-53 ----- -/- | 1-3,6,7, 15,18-21 |

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☒ Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
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| X | TAVKHELIDZE A ET AL: "Electron tunneling through large area vacuum gap — preliminary results" 2002, PISCATAWAY, NJ, USA, IEEE, USA, 25 August 2002 (2002-08-25), pages 435-438, XP010637519 page 435, left-hand column, lines 1-18 page 436, left-hand column, lines 27-35 page 438, left-hand column, lines 10-20 | 1-4,6,7, 15,16, 18-21 |
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